

Application No. 10/052,987

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A process which comprises (a) preparing a first solution comprising water and an anionic dye, said first solution containing the dye in an amount of at least about 2 percent by weight; (b) preparing a second solution comprising water and a polyquaternary amine compound selected from the group consisting of polydiallyl ammonium compounds, polyquaternized polyvinylamines, polyquaternized polyallyl amines, epichlorohydrin/amine copolymers, cationic amido amine copolymers, copolymers of vinyl pyrrolidinone and a vinyl imidazolium salt, and mixtures thereof; (c) admixing the first solution and the second solution, thereby causing formation of a complex of the anionic dye and the polyquaternary amine compound and precipitation of the complex from the solution; and (d) isolating the complex thus formed.

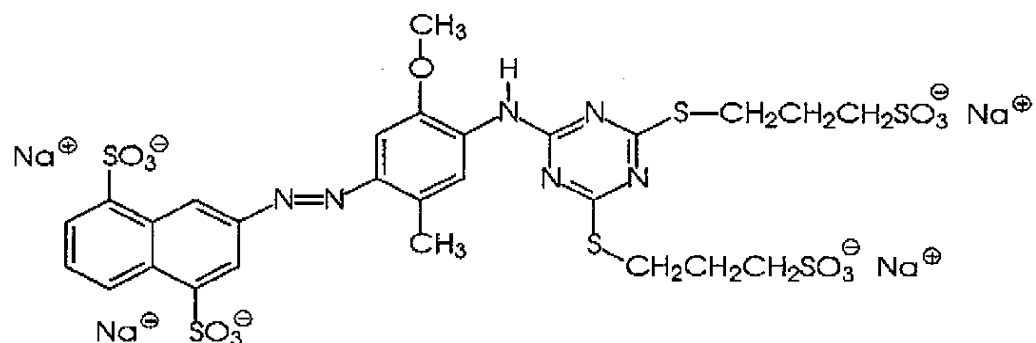
2. (Cancelled)

3. (Cancelled)

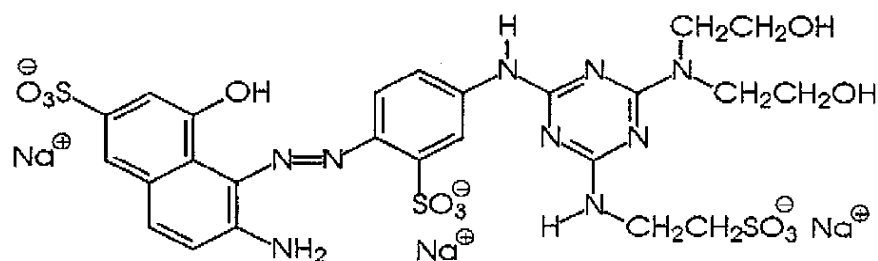
Application No. 10/052,987

4. (Original) A process according to claim 1 wherein the polyquaternary amine compound is a polydiallyl dimethyl ammonium compound.

5. (Original) A process according to claim 1 wherein the anionic dye is (a) Acid Yellow 23, (b) Acid Red 52, (c) a magenta chlorotriazine dye with a molecular weight of 881 grams per mole and an empirical formula of $C_{30}H_{20}ClN_7O_{15}S_4$, (d) a dye of the formula



(e) a dye of the formula



(f) Acid Blue 9, (g) Direct Blue 199, or (h) mixtures thereof.

Application No. 10/052,987

6. (Currently amended) A process for preparing an ink composition which comprises (1) preparing a complex of an anionic dye and a polyquaternary amine compound by a process which comprises (a) preparing a first solution comprising water and an anionic dye; (b) preparing a second solution comprising water and a polyquaternary amine compound selected from the group consisting of polydiallyl ammonium compounds, polyquaternized polyvinylamines, polyquaternized polyallyl amines, epichlorohydrin/amine copolymers, cationic amido amine copolymers, copolymers of vinyl pyrrolidinone and a vinyl imidazolium salt, and mixtures thereof; and (c) admixing the first solution and the second solution, thereby causing formation of a complex of the anionic dye and the polyquaternary amine compound and precipitation of the complex from the solution; and (2) admixing the complex thus formed with an organic cosolvent and a nonpolymeric salt, wherein the complex of the anionic dye and the polyquaternary amine compound is soluble in the ink.

Application No. 10/052,987

7. (Original) A process according to claim 6 wherein the cosolvent is selected from the group consisting of ethylene glycol, propylene glycol, diethylene glycols, glycerine, dipropylene glycols, polyethylene glycols, polypropylene glycols, amides, ethers, urea, substituted ureas, ethers, carboxylic acids and their salts, esters, alcohols, organosulfides, organosulfoxides, sulfones, alcohol derivatives, carbitol, butyl carbitol, cellusolve, tripropylene glycol monomethyl ether, ether derivatives, amino alcohols, ketones, N-methylpyrrolidinone, 2-pyrrolidinone, cyclohexylpyrrolidone, hydroxyethers, amides, sulfoxides, lactones, polyelectrolytes, methyl sulfonylethanol, imidazole, betaine, and mixtures thereof.

8. (Cancelled)

9. (Currently Amended) A process according to ~~claim 8~~ claim 6 wherein the nonpolymeric salt is present in the ink in an amount of at least about 0.1 percent by weight of the ink, and wherein the nonpolymeric salt is present in the ink in an amount of no more than about 40 percent by weight of the ink.

10. (Original) A composition comprising a complex of an anionic dye and a polyquaternary amine compound prepared by the process of claim 1.

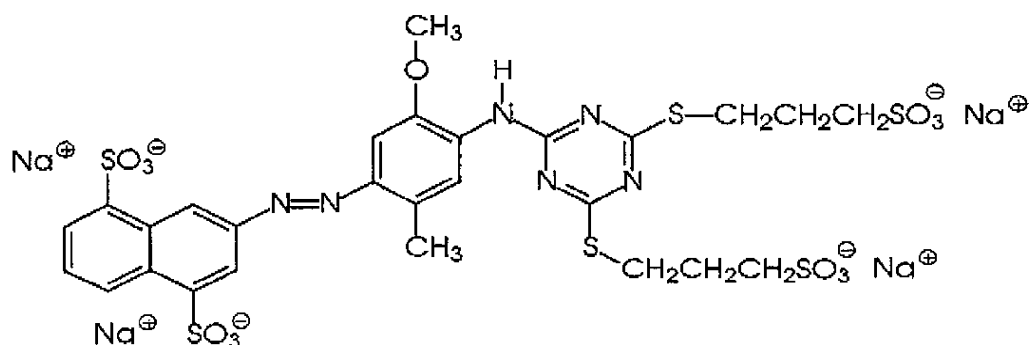
Application No. 10/052,987

11. (Original) A composition according to claim 10 wherein the polyquaternary amine is a poly(dimethyldiallyl ammonium) compound and the anionic dye is Acid Yellow 23.

12. (Original) A composition according to claim 10 wherein the polyquaternary amine is a poly(dimethyldiallyl ammonium) compound and the anionic dye is Acid Red 52.

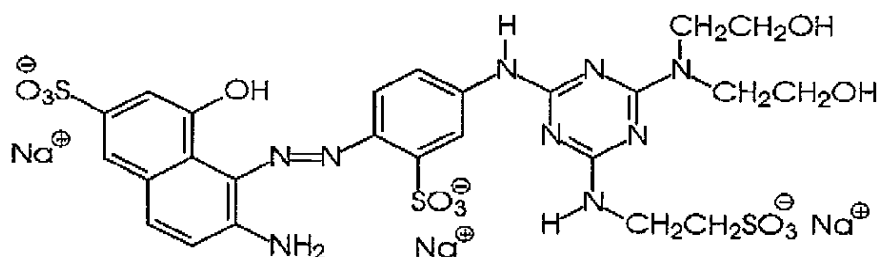
13. (Original) A composition according to claim 10 wherein the polyquaternary amine is a poly(dimethyldiallyl ammonium) compound and the anionic dye is a magenta chlorotriazine dye having a molecular weight 881 grams per mole and an empirical formula of $C_{30}H_{20}ClN_7O_{15}S_4$.

14. (Original) A composition according to claim 10 wherein the polyquaternary amine is a poly(dimethyldiallyl ammonium) compound and the anionic dye is of the formula



Application No. 10/052,987

15. (Original) A composition according to claim 10 wherein the polyquaternary amine is a poly(dimethyldiallyl ammonium) compound and the anionic dye is of the formula

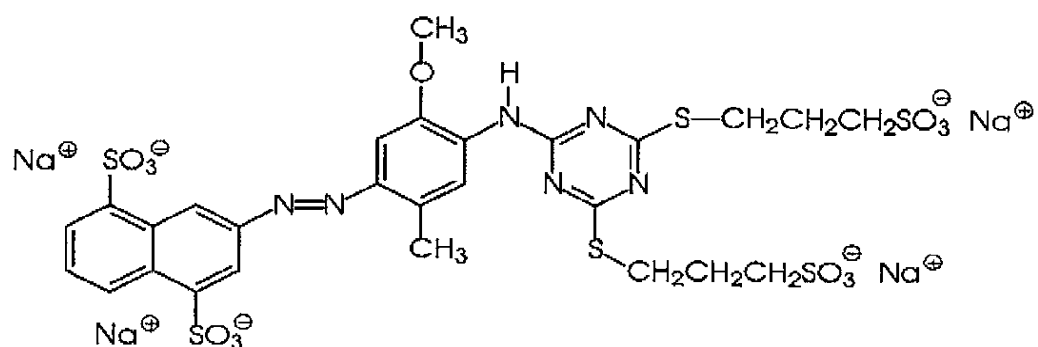


16. (Original) A composition according to claim 10 wherein the polyquaternary amine is a poly(dimethyldiallyl ammonium) compound and the anionic dye is Acid Blue 9.

17. (Original) A composition according to claim 10 wherein the polyquaternary amine is a poly(dimethyldiallyl ammonium) compound and the anionic dye is Direct Blue 199.

Application No. 10/052,987

18. (Original) A composition according to claim 10 wherein the polyquaternary amine is a copoly(N-vinyl-N-methylimidazolium chloride/N-vinylpyrrolidone) and the anionic dye is of the formula



Application No. 10/052,987

19. (Currently amended) A process which comprises:

(A) preparing an ink composition by a process comprising:

(1) preparing a complex of an anionic dye and a polyquaternary amine compound by a process which comprises:

(a) preparing a first solution comprising water and an anionic dye;

(b) preparing a second solution comprising water and a polyquaternary amine compound selected from the group consisting of polydiallyl ammonium compounds, polyquaternized polyvinylamines, polyquaternized polyallyl amines, epichlorohydrin/amine copolymers, cationic amido amine copolymers, copolymers of vinyl pyrrolidinone and a vinyl imidazolium salt, and mixtures thereof; and

(c) admixing the first solution and the second solution, thereby causing formation of a complex of the anionic dye and the polyquaternary amine compound and precipitation of the complex from the solution; and

(2) admixing the complex thus formed with an organic cosolvent, wherein the complex of the anionic dye and the polyquaternary amine compound is soluble in the ink; and

(B) incorporating the ink composition into an ink jet printing apparatus and causing droplets of the ink composition to be ejected in an imagewise pattern onto a substrate.

Application No. 10/052,987

20. (Original) A process according to claim 19 wherein the printing apparatus employs a thermal ink jet process wherein the ink in the nozzles is selectively heated in an imagewise pattern, thereby causing droplets of the ink to be ejected in imagewise pattern.

21. (New) A process according to claim 1 wherein the first solution contains the dye in an amount of at least about 5 percent by weight.

22. (New) A process according to claim 6 wherein the first solution contains the dye in an amount of at least about 2 percent by weight.

23. (New) A process according to claim 6 wherein the first solution contains the dye in an amount of at least about 5 percent by weight.

24. (New) A process according to claim 19 wherein the first solution contains the dye in an amount of at least about 2 percent by weight.

25. (New) A process according to claim 19 wherein the first solution contains the dye in an amount of at least about 5 percent by weight.